

## CLEAN CLAIMS

---

44. A highly efficient recovery process for the treatment of multi-element wastes which comprises the steps of:

B1 a) a primary heat treatment of the waste in the presence of a controlled amount of oxygen;

b) after the completion of said heat treatment, halogenation of the product of said heat treatment by treatment with chlorine, bromine or a mixture thereof under heating, in the presence of a halogenation catalyst, and

c) separation of the metal halide products of said halogenation.

---

65. An apparatus for a high efficient recovery process for the treatment of multi-element wastes, which comprises:

B2 I) a primary heat treatment chamber (3);

II) a halogenation chamber (9); and

III) a separation unit (11 to 15) connected to said halogenation chamber;

IV) said primary heat treatment chamber comprising a waste inlet (2), a flue-gas outlet (20) and means of heating; and

V) said halogenation chamber comprising a means of heating, an inlet (10) for chlorine, bromine or mixtures thereof and an outlet (16) and means for introducing in said chamber a halogenation catalyst.

---